
ENVIRONMENTAL Fact Sheet



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ASB-1

1996

Commercial Asbestos Roofing Removal

General

On November 20, 1990 the National Emission Standards for Hazardous Air Pollutants (NESHAP) as defined in the Code of Federal Regulation (40 CFR 61 Subpart M) were revised to contain language dealing with asphalt roofing products which are defined as Category I nonfriable asbestos. As such, they are regulated if they become friable or are subjected to sanding, grinding, cutting, or abrading. NESHAP also requires inspection of the interiors and exteriors of institutional, commercial, public, industrial, or residential structures, installations, or buildings, excluding residential single family dwellings, prior to any renovation or demolition. (See attachment entitled *Regulatory Information Concerning Asbestos Containing Materials in Buildings*.) It was apparent that many roofing jobs involved asbestos material to varying degrees and that a protocol for asbestos roof work needed to be developed. Many questions had arisen since November of 1990 regarding various conditions/circumstances which have occurred in the roofing industry. The NESHAP interpretive rule dated June 17, 1994 was written to answer these questions. The following is a summary of the key issues addressed in the rule:

1. If a roof cutter with a blunt edge rotating blade (RB) is used on an asbestos roof project involving more than 5580 square feet, NESHAP assumes it will generate 160 square feet of regulated asbestos containing material (RACM) and is therefore regulated under NESHAP. For projects with less than 5580 square feet of regulated roofing material notification for demolition is always required but work is not subject to NESHAP.
2. Sharp or tapered edge blades slice rather than cut and are not subject to NESHAP. Separation of roofing material by means other than sanding, grinding, cutting or abrading is not regulated by NESHAP.
3. Large areas of roofing must generate at least 160 square feet of RACM to be regulated. This quantity must be added as a component in the total RACM involved in a demolition. Use of pry bars, spud bar and shovels on AC shingles if used cautiously is not subject to NESHAP.
4. Use of axes, hatchets, knives, spud bar, pry bar, shovel, or methods which slice, shear, or punch (power slice or power plow) assuming roof material is not friable are not subject to regulation. The use of power removers or power tear-off machines to remove pried up roofing material up is not regulated.
5. The removal of category 1 and 2 roofing material not associated with building demolition is deemed renovation and if manual methods or slicing is used during removal no notification is required.
6. Changes for regulated projects involving start dates and material changes of 20% or more must be reported and renotification is required in written form. Emergency renovations require notification postmarked no later than the next working day.

7. Compliance for "adequately wetting" and "discharging no visible emissions" under NESHAP is achieved if the RB roof cutter has a blade guard and fine mist sprayer. Written approval from the Environmental Protection Agency (EPA) is required for dry removal, which may then require alternate fiber control methods. Approval may be given due to ambient temperature (below freezing) or because wetting will unavoidably damage the building, equipment inside the building, or will present a safety hazard. Temperature records must be kept at the start, middle, and end of the day for at least 2 years if the freeze-up exemption is given.
8. Waste generated by slicing or other methods that do not cut, grind, sand, or abrade Category 1 nonfriable asbestos containing roofing is not subject to NESHAP but is to be disposed of as asbestos containing material (ACM) with a waste shipment record (WSR) per state of NH regulations.
9. Saw cut waste if generated in sufficient quantity to invoke the NESHAP must be vacuumed/collected from the site to avoid contaminating the balance of the roofing/jobsite.
10. Encapsulants can be used to seal roofing material rendered friable during cutting so it can be safely handled prior to disposal.
11. Asbestos containing waste must go to permitted facilities for disposal. WSR must be kept for 2 years. A competent person as defined by the Occupational Health and Safety Administration (OSHA) must be on site at all times during the removal of asbestos material regulated under NESHAP.

Removal

The following is a suggested guideline for planning asbestos roof removal/replacement:

1. Confirm whether or not suspected roofing materials are asbestos-containing from available materials including plant engineering drawings and records, or by analysis of core samples.
2. Determine if the asbestos material is friable or non-friable. Is it crumbly or is it likely to be seriously degraded during removal?
3. If the asbestos roofing material (ARM) is regulated, one must follow strict guidelines relating to the removal process.
4. Even if the ARM is not found to be a regulated asbestos containing material, and can be removed in a manner which does not render it regulated, those doing the removal must still comply with the OSHA regulations. Please be aware that:
 - a. Effective October 1, 1995 OSHA regulations (refer to 29CFR1926.1101) categorize the removal of ARM as class II asbestos work. This means all ARM activities shall be supervised by a competent person (refer to 29 CFR1926.1101(g)(7)(i)). Class II asbestos work also requires either a negative initial exposure assessment which demonstrates employee exposure during the operation is expected to be consistently below the Permissible Exposure Limit (PEL) of 0.1 f/cc, or general air monitoring, use of personal protective equipment and engineering controls will be used to control asbestos fiber release and protect the workers. (Refer to 29 CFR1926.1101(g)(7)(ii).
 - b. OSHA regulations governing exposure to asbestos fibers may require personal protective equipment be worn and fiber control and air sampling to occur. (Refer to 29 CFR 1926.1101)
 - c. Employees can offset the need for respiratory protection if it can be demonstrated that employee exposures will be below the permissible exposure level. This can be accomplished by presenting supporting data for similar jobs conducted under workplace conditions "closely resembling" those about to be undertaken where

- certified air monitoring was performed and the results were below the specified limits. [Refer to 29 CFR 1926.1101(f)(2)(i)(ii)(iii)].
- d. Contractors should be aware that employees cannot be required to work while wearing a negative pressure respirator, if based on his or her most recent examination by a physician, they are deemed unable to function normally while wearing such protection. If an individual is unable to wear such protective equipment when required, they must wear a positive air purifying respirator or he/she must be restricted from the immediate work area.
 - e. Contractors should also be aware that employees exposed to hazardous substances (including asbestos) at or above the established PEL of .1 fibers/cc for 30 days or more per year or for all employees who wears a respirator 30 days or more/year, must be in a medical monitoring program and the company must have a respirator use/maintenance/repair program. [Refer to 29 CFR 1910.134(b),(d),(e) and (f)].
5. A Site Safety and Contingency Plan (SSACP) must be submitted to the Solid Waste Compliance Section at least 30 days prior to the start of the project. (Refer to New Hampshire Solid Waste Rules Section Env-Wm 2601.02 and the attached SSACP Summary).
 6. Both regular contractors and licensed asbestos abatement contractors are required to generate WSR to track the shipment and disposal of the asbestos waste material. If out of state landfills are to be used to receive asbestos containing material for disposal, the contractor must confirm the validity of all operating permits.

Once the roofing has been identified and categorized, an appropriate contractor(s) can be selected to do the work. In some cases licensed asbestos abatement contractors are required and are used to perform some, or all, of the asbestos roof removal and in other cases, by adhering to predefined procedures regular contractors can perform asbestos roof removal by not rendering it regulated (See attachment entitled *General Work Requirements for Asbestos Abatement Projects*.) An example of this methodology would be the use of specially designed equipment to control and capture asbestos fibers. Roofing saws equipped with High Efficiency Particulate Air (HEPA) filters and with wetting nozzles for misting the cutting surface are accepted tools for use when cutting sections of composite asbestos roofing. These sections should be as large as practical, and their size will depend to some extent on the type of disposal container being used. Such containers must be lined with two layers of ten mil polyethylene and labeled and secured during use. Personal air monitoring data should substantiate that fiber emission levels during unregulated asbestos roof removal are below the PEL of 0.1f/cc.

Further Information

For more information on commercial roofing removal, contact:

N.H. Department of Environmental Services
Waste Management Division
29 Hazen Drive
Concord, NH 03301-6509 603-271-2925

SITE SAFETY AND CONTINGENCY PLANS SUMMARY
(Attachment to Fact Sheet ASB-1)

Types of Asbestos	Non-regulated Asbestos Containing Material	Non-regulated Asbestos Containing Materials Rendered Regulated	Regulated Asbestos Containing Material
Removal by Licensed Abatement Contractor Required	NO	YES	YES
Removal by General Contractor Allowed	YES	NO	NO
Air Monitoring Required	YES	YES	YES
Competent Person Present	YES	YES	YES
Approved Site Safety & Contingency Plan Required	YES	YES	YES
Proper Removal Technique Required	YES	YES	YES
Personal Protection Required	YES	YES	YES
Proper Packing & Labeling Required	YES	YES	YES
Proper Transport & Disposal Required	YES	YES	YES
Reporting Requirements Specified	YES	YES	YES

General

Site Safety and Contingency Plans (SSACP) must be submitted to the Solid Waste Compliance Section (SWCS) for approval prior to remediation of asbestos contaminated properties or outdoor asbestos renovation/demolition/ remediation projects. The SSACP, after being approved by the SWCS of the Waste Management Division, should be required reading for all personnel connected with the Abatement Activities, and should be posted at the job site. Emergency telephone numbers should be listed for the job and also posted at the site. These should include, but not be limited to, the local Fire Department, Ambulance Service, Property Owner, Contractors Home Number, and the nearest Hospital.

Minimum Requirements

- a. Clear description of the project to be undertaken. Description should include location, amount and type/types of asbestos material to be dealt with, and any site specific conditions.
- b. Who will be doing the work? Is the contractor licensed or unlicensed, or is the property owner of record doing the work? Who is the OSHA competent person designated for the job. The licensed abatement contractor must have up to date credentials. The competent person must have current training certificates as well as an up to date supervisor's certificate.
- c. How will the abatement workers be protected? Is air monitoring required? If so, are both area and personal sampling plans needed? Is an on site decontamination facility required, or can multiple asbestos resistant work suits be used. Has there been a negative initial exposure assessment performed.
- d. What provisions are made for crowd control? Can sidewalk superintendents be kept at a safe distance from the work site? Is site security necessary?
- e. How is the asbestos waste going to be handled and where is it going? If asbestos materials are to be capped on site, then as-built drawings will be required. If the wastes are going to a landfill, is it permitted? If the wastes are going out of the State of N.H., then documentation indicating that the designated landfill is acceptable will have to be included. A copy of the current operating license as well as a copy of the paragraph, page, or pages from the operating permit indicating that the particular type/types of asbestos to be encountered on the job are an acceptable waste stream at that specific facility.
- f. What will be required for a successful conclusion to the job? Specific information should be furnished detailing the conditions of job approval. This might include, but not be limited to, on site inspection by multiple parties, documentation-test results, as-built drawings, record drawings, landfill receipts, waste shipment records.
- g. Follow up - SSACPs open files at the SWCS. Projects are logged in and approval letters are sent out to allow the commencement of abatement activities. At the conclusion of the abatement activities submission of air monitoring data, landfill records, and waste shipment records must be sent to the SWCS to complete the current project file.

Regulatory Information Concerning Asbestos Containing Materials in Buildings (Attachment to Fact Sheet ASB-1)

Inspections

Any facility, or part of a facility being affected, must be inspected for asbestos-containing materials prior to any renovation or demolition project taking place. A facility is defined as any

institutional, public, commercial, industrial or residential structure, installation, or building.
(Source: 40 CFR 61.145(a), Env-C 401.04)

All persons inspecting either **interiors** or **exteriors** in occupied or vacant facilities including: assessing the condition of asbestos, determining the friability or non-friability of the material, and/or recommending response actions, must be certified by having successfully completed, at a minimum, an approved training course for asbestos inspectors. (Source: 40 CFR 61.145(c)(3)(i)(B)(8), 15USC 2646(a)(1), Env-C 401.04)

Any person inspecting for asbestos within a school building must be accredited by the State of New Hampshire as an Asbestos Inspector. [Source: He-P 5018.12(a)]

Designing Projects

Any person designing response actions in public, commercial or industrial buildings must be certified by having successfully completed, at a minimum, an approved training course for Asbestos Project Designers. [Source: 15USC 2646(a)(3)]

Any person designing an asbestos abatement project within a school building must be certified by the State of New Hampshire as an Asbestos Project Designer. [Source: He-P 5018.14(a)]

NOTE: There are no special certification requirements for persons preparing site safety and contingency plans. (Source: Env-Wm 2601.02)

Demolition/Renovation

All asbestos containing materials are to be removed from the structure, or affected portion of the structure, prior to any demolition. [Source: Env-C 404.04(a)]

For building exteriors or outdoor abatements of ACM, including removal of siding and roofing materials, contact the Waste Management Division, Department of Environmental Services, at (603) 271-2925 for information concerning requirements of a Site Safety and Contingency Plan. (Source: Env-Wm 2601, Env-C 406.05)

NOTE: Major asbestos abatement projects involving the abatement of regulated asbestos containing materials require the use of a licensed asbestos abatement contractor unless otherwise exempted. (Source: RSA 141-E)

General Work Requirements for Asbestos Abatement Projects (Attachment to Fact Sheet ASB-1)

Note: Regulated Asbestos Containing Material Includes:

- A. friable asbestos
- B. category I non-friable asbestos materials (packings, gaskets, resilient floor coverings and asphalt roofing products) that have become friable
- C. category I non-friable asbestos materials that will be, or have been subjected to sanding, grinding, cutting, or abrading.
- D. category II non-friable asbestos materials (any non-friable asbestos materials not included in category I) that have a high probability of becoming or has become

crumble, pulverized, or powder by the forces expected to act on the material in the course of demolition or renovation operations.

Removal of non-regulated material should stress a minimum of breakage.

The National Emission Standards for Hazardous Air Pollutants (NESHAP) guidelines suggest no more than 10% breakage.

The Occupational Safety and Health Administration (OSHA) regulations requires asbestos training for all asbestos roof work 29 CFR 1926.1101 (f)(2)(iii).